

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

CARNEGIE INSTITUTION OF
WASHINGTON and M7D CORPORATION,

Plaintiffs,

v.

Case No. 20-cv-189 (JSR)

PURE GROWN DIAMONDS, INC. and
IIA TECHNOLOGIES PTE. LTD. d/b/a
IIA TECHNOLOGIES,

Defendants.

**DECLARATION OF J. PRESTON LONG IN SUPPORT OF
DEFENDANTS' OMNIBUS MOTION FOR SUMMARY JUDGMENT**

I, J. Preston Long, declare as follows:

1. I am an attorney with Finnegan, Henderson, Farabow, Garrett & Dunner, LLP and am counsel for Defendants Pure Grown Diamonds, Inc. and IIa Technologies Pte. Ltd. ("2AT") in the above-captioned matter. I submit this declaration based upon my own personal knowledge in support of Defendants' Omnibus Motion for Summary Judgment.

2. Attached as Exhibit 1 is a true and correct copy of U.S. Patent No. 6,858,078 to Hemley et al.

3. Attached as Exhibit 2 is a true and correct copy of Second Amended Plaintiffs' Local Patent Rule 6 Disclosure to Defendants Pure Grown Diamonds, Inc. and IIa Technologies Pte. Ltd.

4. Attached as Exhibit 3 is a true and correct copy of Chih-shiue Yan et al., *Very High Growth Rate Chemical Vapor Deposition of Single-Crystal Diamond*, 99 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA 12523 (2002).

5. Attached as Exhibit 4 is a true and correct copy of excerpts from the Transcript of the Deposition of Russell J. Hemley.

6. Attached as Exhibit 5 is a true and correct copy of excerpts from the Transcript of the Deposition of Vishal Mehta.

7. Attached as Exhibit 6 is a true and correct copy of excerpts from the Transcript of the Deposition of Marilyn Williams.

8. Attached as Exhibit 7 is a true and correct copy of excerpts from the Transcript of the Deposition of Devi Misra.

9. Attached as Exhibit 8 is a true and correct copy of a July 21, 2020, letter from J. Preston Long to Sarah Fowler.

10. Attached as Exhibit 9 is a true and correct copy [REDACTED]

[REDACTED]

11. Attached as Exhibit 10 is a true and correct copy of excerpts from the Expert Report of Michael Capano, Ph.D. Regarding Infringement of U.S. Patent Nos. 6,858,078 and RE41,189.

12. Attached as Exhibit 11 is a true and correct copy of photographs of seeds plotted on pursuant to 2AT's Standard Operating Procedures.

13. Attached as Exhibit 12 is a true and correct copy of excerpts from the Rebuttal Expert Report of Dr. Christoph E. Nebel Regarding the Non-infringement of Claims 1, 6, 11, 12, 16, and 20 of U.S. Patent No. 6,858,078.

14. Attached as Exhibit 13 is a true and correct copy of engineering drawings for MD-77 and MD-122.

15. Attached as Exhibit 14 is a true and correct copy of photographs of 2AT's commercial MPCVD reactors.

16. Attached as Exhibit 15 is a true and correct copy of excerpts from the Transcript of the Deposition of Shamik Ghosh.

17. Attached as Exhibit 16 is a true and correct copy of photographs of plasmas in 2AT's commercial MPCVD reactors.

18. Attached as Exhibit 17 is a true and correct copy of a spreadsheet with 2AT's process recipes.

19. Attached as Exhibit 18 is a true and correct copy of excerpts from the Transcript of the Deposition of Yogesh K. Vohra.

20. Attached as Exhibit 19 is a true and correct copy of U.S. Patent No. 5,099,788 to Ito et al.

21. Attached as Exhibit 20 is a true and correct copy of U.S. Patent No. 5,318,801 Snail et al.

22. Attached as Exhibit 21 is a true and correct copy of a photograph [REDACTED]

[REDACTED]

23. Attached as Exhibit 22 is a true and correct copy of a photograph [REDACTED]

[REDACTED]

24. RESERVED

25. Attached as Exhibit 24 is a true and correct copy of photographs [REDACTED]

[REDACTED]

26. Attached as Exhibit 25 is a true and correct copy of a photograph [REDACTED]

[REDACTED].

27. Attached as **Exhibit 26** is a true and correct copy of Yicun Li et al., *Thinning Strategy of Substrates for Diamond Growth with Reduced PCD Rim: Design and Experiments*, 101 DIAMOND & RELATED MATERIALS 101 (2020).

28. Attached as **Exhibit 27** is a true and correct copy of Shreya Nad et al., *Growth Strategies for Large and High Quality Single Crystal Diamond Substrates*, 60 DIAMOND & RELATED MATERIALS 26 (2015).

29. Attached as **Exhibit 28** is a true and correct copy of excerpts from the Transcript of the Deposition of Yarden Tsach.

30. Attached as **Exhibit 29** is a true and correct copy of excerpts from Exhibit 19 to the Deposition of Yarden Tsach.

31. Attached as **Exhibit 30** is a true and correct copy of Q. Liang et al., *Developments in Synthesis, Characterization, and Application of Large, High-Quality CVD Single Crystal Diamond*, 35 J. SUPERHARD MATERIALS 197 (2013).

32. Attached as **Exhibit 31** is a true and correct copy of excerpts from Gopi Krishna Samudrala, *Multivariable Study on Homoepitaxial Growth of Diamond on Planar and Non-planar Substrates*, Ph.D. Dissertation, University of Alabama Birmingham (2009).

33. Attached as **Exhibit 32** is a true and correct copy of S. Kaplan, “Forget the Ring: Lab-Grown Diamonds Are a Scientist’s Best Friend,” THE WASHINGTON POST (Feb. 13, 2017, 8:00 AM), available at <https://www.washingtonpost.com/news/speaking-of-science/wp/2017/02/13/forget-the-ring-lab-grown-diamonds-are-a-scientists-best-friend>.

34. Attached as **Exhibit 33** is a true and correct copy [REDACTED]

[REDACTED]

[REDACTED]

35. Attached as Exhibit 34 is a true and correct copy of [REDACTED]
[REDACTED]
[REDACTED]

36. Attached as Exhibit 35 is a true and correct copy of [REDACTED]
[REDACTED]
[REDACTED]

37. Attached as Exhibit 36 is a true and correct copy of [REDACTED]
[REDACTED]
[REDACTED].

38. Attached as Exhibit 37 is a true and correct copy of excerpts from Exhibit 13 to the Deposition of Sue Rechner.

39. Attached as Exhibit 38 is a true and correct copy of a Patent License Agreement between Carnegie Institution of Washington and Washington Diamonds LP, dated June 23, 2011.

40. Attached as Exhibit 39 is a true and correct copy of U.S. Patent No. RE41,189 to Li et al.

41. Attached as Exhibit 40 is a true and correct copy of excerpts from the Rebuttal Expert Report of Dr. Filip De Weerdt Regarding the Non-infringement of U.S. Patent No. 6,858,078.

42. Attached as Exhibit 41 is a true and correct copy of excerpts from a 2002 Phoenix Crystal Corporation Notebook, maintained by Robert H. Frushour.

43. Attached as Exhibit 42 is a true and correct copy of excerpts from the Transcript of the Deposition of Robert H. Frushour.

44. Attached as Exhibit 43 is a true and correct copy of U.S. Patent No. 5,672,395 to Anthony et al.

45. Attached as Exhibit 44 is a true and correct copy of R.C. DeVries, *Plastic Deformation and "Work Hardening" of Diamond*, 10 MATERIALS RESEARCH BULLETIN 1193, 1193 (1975).

46. Attached as Exhibit 45 is a true and correct copy of K. Schmetzter, *Clues to the Process Used by General Electric to Enhance the GE POL Diamonds*, 35 GEMS & GEMOLOGY 186, 189 (Winter 1999).

47. Attached as Exhibit 46 is a true and correct copy of excerpts from T.W. Overton & J.E. Shigley, *A History of Diamond Treatments*, GEMS & GEMOLOGY 32, 42 (Spring 2008).

48. Attached as Exhibit 47 is a true and correct copy of excerpts from the file history of U.S. Patent No. RE41,189 to Li et al.

49. Attached as Exhibit 48 is a true and correct copy of the recorded assignment of the UAB Research Foundation's interest in U.S. Patent No. 6,858,078 to the Carnegie Institute of Washington on December 13, 2011.

50. Attached as Exhibit 49 is a true and correct copy of F.P. Bundy et al., *The Pressure-Temperature Phase and Transformation Diagram for Carbon*; Updated Through 1994, 34 Carbon 141, 142 (1996).

51. Attached as Exhibit 50 is a true and correct copy of U.S. Patent No. 4,124,690 to Strong et al.

52. Attached as Exhibit 51 is a true and correct copy of C.S. Kennedy & G.C. Kennedy, *The Equilibrium Boundary Between Graphite and Diamond*, 81 Journal of Geophysical Research 2467, 2467 (1976).

53. Attached as Exhibit 52 is a true and correct copy of R. Berman & Sir F. Simon, *On the Graphite – Diamond Equilibrium*, 59 Zeitschrift für Elektrochemie, Berichte der Bunsengesellschaft für physikalische Chemie 333, 338.

54. Attached as Exhibit 53 is a true and correct copy of excerpts from the Transcript of the Deposition of Michael Joe Walter.

55. Attached as Exhibit 54 is a true and correct copy of Howard W. Day, *A Revised Diamond-Graphite Transition Curve*, 97 AMERICAN MINERALOGIST 52 (2012).

56. Attached as Exhibit 55 is a true and correct copy of an excerpt from [REDACTED]

[REDACTED]

[REDACTED]

57. Attached as Exhibit 56 is a true and correct copy of excerpts from [REDACTED]

[REDACTED]

[REDACTED]

58. Attached as Exhibit 57 is a true and correct copy of excerpts from the Rebuttal Expert Report of Dr. Filip De Weerdt Regarding the Non-infringement of Claims 1 and 2 of U.S. Patent No. RE41,189.

59. I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct and that this declaration was executed on October 13, 2020, at Potomac, MD.



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